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May 2, 1958

Dear Dan:

The following facts on System 2 for requirement 2 confirm the conversations held recently with Phil and Frank.

1. Final year-end accounting adjustments resulted in costs exceeding the funding for the System 2 work that was completed after April 1, 1957. The contract provided $[redacted], whereas costs are estimated to be approximately [redacted] resulting in an overrun of approximately [redacted]. This is the overrun mentioned to you in the meeting in your office. 25X1 25X1 25X1

2. The redesign of System 2 for requirement 2 ran into some unexpected problems resulting in some changes in the delivery schedule and an increase in R&D costs. For example, field experience had pointed up some specific design deficiencies in the communications unit. After these readily apparent deficiencies had been corrected, other deficiencies were discovered. These secondary deficiencies were of a subtle nature and had been masked by the more obvious primary deficiencies. A great deal of time had to be spent in locating these deficiencies and determining optimum remedies. For example, after the gating configuration was redesigned, it was found that the output of the various blocking oscillators was inadequate. These five or six blocking oscillators had to be redesigned to provide more output. This in turn necessitated a redesign of the input gating to the blocking oscillators. This is only one of the many chain reactions we encountered.

The transmitter final amplifier unit is another good example. It had been planned originally to repackage this unit, eliminating the pressurized housing used with the airborne equipment, but

Cy 2 to Fort, OC
Cy 3 to [redacted] 25X1
Eng div/OC
25X1

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leaving the electrical layout and circuitry unchanged. After work was started, it was realized that the electrical layout and circuitry had been dictated in part by the peculiarities of the airborne environment such as the pressurized housing requirements. It was decided that a significant improvement in both equipment performance and maintainability could be achieved by revising the layout of the components and, in some cases, revising the circuitry. Other units of the system presented similar problems which increased the cost and the time required for development.

A second category of problems resulted directly from conditions under which the original System 2 development program was carried on. During the early System 2 development, the work was carried on as a crash program in the fullest sense. For this reason, many errors occurred in the equipment drawings, and the schematic drawings were not well laid out nor properly labeled. Therefore, in order to reduce production costs by eliminating excessive rework caused by drafting errors and to increase equipment maintainability by improving schematic drawings, a considerable amount of effort was used in revising and correcting the drawings for the equipment.

Schedules -

We now anticipate shipping the first prototype field-station equipment on June 23, 1958. Assuming that the equipment arrives at the destination within a reasonable time, installation and preliminary check-out in preparation for field tests will begin June 30, 1958. The actual field tests of prototype equipment would then commence on July 14, 1958, with the two prototype field-station equipments and one prototype dual-base station receiving equipment being delivered to the customer on August 14, 1958.

Costs -

Total funds in the contract	[redacted]	25X1
Estimated costs as of Apr 6, 1958	[redacted]	25X1
Estimate to complete - from April 6, 1958	[redacted]	25X1
Balance remaining at completion of R&D work	[redacted]	25X1

As we previously discussed, production costs can better be estimated when the R&D work is completed. This will not result in any delays since production is not to start until the prototype equipment has been tested and accepted.

Our Quarterly Technical Reports No. 1 and No. 2 covering the period August 1, 1957 to February 1, 1958, give the complete story. However, at Phil's request we have briefly summarized the information in this letter. I'm enclosing additional copies of this letter for requirement 2 personnel.

As previously discussed, I am sending you the status of contract funding for the over-all contract. This shows that at the present time the costs to date plus the estimate to complete will not require any funding other than that presently in the contract.

Please let me know if you need any additional information. In the meantime we are continuing with the R&D effort so that we will meet the revised delivery schedule.

Sincerely,

Sid

Sid